

## REMARKS

This is in response to the Office Action mailed May 3, 2006. In the Office Action claims 1-19 were rejected under 35 U.S.C. 101 as directed to non-statutory subject matter and under 35 U.S.C. 112, first paragraph, for failure to disclose how to practice a practical application.

The rejection overlooks a preliminary amendment filed with the application which cancelled claims 5-19 and added new claims 20-26. A copy of the preliminary amendment and the postcard receipt for the application and the preliminary amendment are enclosed.

The preliminary amendment includes an amendment that states that the present application is a continuation-in-part of application Serial No. 10/118,670. The '670 application has issued as U.S. Patent No. 6,697,707. Claim 1 of present application is similar to claim 1 of the '707 patent.

With respect to the rejection of claims 1-4 under 35 U.S.C. 101 and 35 U.S.C. 112, first paragraph, applicant respectfully submits that the claims are directed to a practical application because a robot and its components including its control system are a practical application. According to the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," all that is necessary to establish a practical application is that "a complete disclosure should contain some indication of the practical application for the claimed invention . . ." (p. 4). As disclosed in the specification in conjunction with Figs. 1a and 1b, one particular practical application for the robot is movement along intersecting corridors; but any number of other activities are also contemplated.

In claim 1 a system is recited comprising a sensory database, a behavior database, an attention agent and a behavior agent. The sensory database stores sensory signals and the behavior database stores behaviors that the robot can perform. The attention agent identifies a focus record in the sensory database; and the behavior agent selects a behavior from the behavior

database based, in part, on the focus record. Thus, the system describes a set of elements that enable the robot to respond with a behavior to something it has sensed and stored in its sensory database.

With respect to the Examiner's assertion that applicant's recitation of an "architecture for robot intelligence" is not one of the four types of patentable subject matter, applicant notes that there is no requirement that the preamble of a claim begin with language that explicitly recites one of the four types of patentable subject matter. Many different terms are widely used in claim drafting. Moreover, as noted in State Street Bank & Trust Co. v Signature Financial Group Inc., 149 F. 3d 1368, 1375, 47 USPQ 2d 1596, 1602 (Fed. Cir. 1998), "[t]he question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to . . . ." (emphasis in original).

With respect to the rejection of the claims on In re Warmerdam, 33 F. 3d 1354, 31 USPQ 2d 1754 (Fed. Cir. 1994), applicant submits that the claims are not directed to abstract ideas. Rather they are directed to specific and concrete things: a sensory database, a behavior database, an attention agent and a behavior agent.

The Examiner's assertion that applicant's "signal" references are abstract ideas is not understood. The signals recited in claims 1-4 are described as sensor signals. Such signals plainly are not abstract ideas but rather are derived from sensors and represent in some way what is sensed by the sensor. To the extent that applicant's claims are deemed to be so-called signal claims, it is respectfully requested that further prosecution of these claims be deferred until the Federal Circuit issues its opinion on patentability of signal claims in In re Petrus A.C.M. Nuijten (Fed. Cir. No. 06-1371).

For the forgoing reasons, claims 1-4 are believed to be patentable.

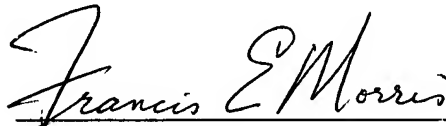
Claims 20-26 were added by preliminary amendment at the time this application was filed. Examination of these claims is respectfully requested.

Aside from the fee for an extension of time, no additional fee is believed to be due for filing this response. However, if a fee is due, please charge such fee to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310.

If the Examiner believes a telephone interview would expedite prosecution of this application, he is invited to call applicant's attorney at the number given below.

Date: September 5, 2006

Respectfully submitted,

A handwritten signature in cursive script that reads "Francis E. Morris". The signature is written in dark ink and is positioned above a horizontal line.

Francis E. Morris

Reg. No. 24,615

Morgan, Lewis & Bockius LLP

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Express Mail No. EV 335 858 146 US First Class Mail ( )  
Date Mailed 12/31/03  
Serial No. NOT YET ASSIGNED Filed \_\_\_\_\_  
Inventor RICHARD ALAN PETERS II  
For ARCHITECTURE FOR ROBOT INTELLIGENCE

- ( ) Affidavit/Declaration  
☒ Amendment ( ) Response PRELIMINARY  
☒ Application 31 pages  
( ) \_\_\_\_\_ claims 3 drawing sheets  
( ) Assignment ( ) Cover Sheet  
( ) Brief (in triplicate)  
☒ Declaration & Power of Attorney  
( ) Executed ( ) Unexecuted ( ) Copy  
☒ Declaration of Inventor(s) FOR PARENT APPL.  
( ) Executed ( ) Unexecuted ☒ Copy  
( ) Design Application  
( ) Disclaimer ( ) Disclaimer Fee  
( ) Disclosure Statement ( ) Form PTO-1449  
( ) w/refs. ( ) w/o refs.  
( ) Drawings, Formal  
\_\_\_\_\_ Sheets \_\_\_\_\_ Figures
- ( ) Fee Address Indication Form  
( ) Fee Calculation  
( ) Issue Fee Transmittal  
( ) Notice of Appeal  
( ) Oral Hearing Request/Confirm  
( ) Petition to Extend Time \_\_\_\_\_ month(s)  
( ) Petition under 37 C.F.R. \_\_\_\_\_  
☒ Power of Attorney FOR PARENT APPLICATION  
☒ by Assignee ( ) Associate ( ) with Revocation  
( ) Request for Correction of Filing Receipt  
( ) Sequence Listing w/Computer-Readable and Paper Copy  
( ) Small Entity Statement  
( ) Status Letter  
( ) Transmittal Letter

Other: TRANSMITTAL LETTER FOR REQUEST TO FILE CONTINUATION APPLICATION

File No. 010888-0006-999 Sender: B. DEIN/S. FUKUSHIMA

Express Mail No. EV 335 858 146 US First Class Mail ( )  
Date Mailed 12/31/03 Filed \_\_\_\_\_  
Serial No. NOT YET ASSIGNED  
Inventor RICHARD ALAN PETERS II  
For ARCHITECTURE FOR ROBOT INTELLIGENCE

22300 U.S. PTO  
10/749326



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( ) Disclosure Statement ( ) Form PTO-1449  
( ) w/refs. ( ) w/o refs.  
( ) Drawings, Formal  
\_\_\_\_\_ Sheets \_\_\_\_\_ Figures
- ( ) Fee Address Indication Form  
( ) Fee Calculation  
( ) Issue Fee Transmittal  
( ) Notice of Appeal  
( ) Oral Hearing Request/Confirm  
( ) Petition to Extend Time \_\_\_\_\_ month(s)  
( ) Petition under 37 C.F.R. \_\_\_\_\_  
☒ Power of Attorney FOR PARENT APPLICATION  
☒ by Assignee ( ) Associate ( ) with Revocation  
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File No. 010888-0006-999 Sender: B. DEIN/S. FUKUSHIMA



U. S. Express Mail Certificate No.: EV 335 858 146 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Richard Alan Peters II

Serial No.: not yet assigned

Group Art Unit: not yet assigned

Filed: December 31, 2003

Examiner: not yet assigned

Attorney Docket No.: 010888-0006-999

For: Architecture for Robot Intelligence

**PRELIMINARY AMENDMENT UNDER 37 C.F.R. § 1.115**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to the examination of the subject application, please enter the following amendments and consider the following remarks.

IN THE SPECIFICATION

Please substitute the paragraph on page 1, lines 5 – 7 with the paragraph below.

This application claims benefit from U.S. application Ser. No. 10/118,670, filed on April 8, 2002, which claims benefit from U.S. provisional application Ser. No. 60/282,215, filed on April 6, 2001 and from U.S. provisional application Ser. No. 60/311,932, filed on August 13, 2001.

## IN THE CLAIMS

Please amend the claims as follows:

1. (Original)           An architecture for robot intelligence comprising:  
a sensory database comprising at least one record, each record representing a direction from the robot and capable of storing a sensor signal;  
a behavior database comprising a least one record, each record representing a behavior capable of being performed by the robot;  
an attention agent for identifying a focus record in the sensory database; and  
a behavior agent for selecting a behavior from the behavior database, the selection based, in part, on the focus record.
2. (Original)           The architecture of claim 1 further comprising an sensory agent for storing the sensor signal into the sensory database record corresponding to the spatial direction of the sensor signal.
3. (Original)           The architecture of claim 2 wherein the sensory agent stores a datum representing a time stamp associated with the sensory signal into the sensory database.
4. (Original)           The architecture of claim 3 further comprising a coincidence agent for detecting temporal coincidence of a first sensor signal and a second sensor signal when the first sensor signal time stamp does not equal the second sensor time stamp.

Claims 5 – 19 (Cancelled)

20. (new)           A method for providing short-term memory for an adaptive autonomous robot, the robot comprising at least one processor configured to execute at least one agent program, each of the at least one agent program configured to interact independently with other agent programs and at least one sensory processing unit associated with the at least one agent program, the method comprising:

creating a plurality of directions, each of the plurality of directions originating at the robot and having a set of nearest-neighbor directions defining a neighborhood associated with the each of the plurality of directions; and associating an event detected by the at least one sensory processing unit with one of the plurality of directions.

21. (new)           The method of claim 5 further comprising fusing a first event associated with one of the plurality of directions with a second event associated with the same one of the plurality of directions.
22. (new)           The method of claim 5 further comprising selecting the direction having the greatest number of events associated with that direction as a focus for the robot.
23. (new)           The method of claim 5 wherein the number of the plurality of directions is fixed.
24. (new)           The method of claim 8 wherein the number of the plurality of directions is selected such that an angle between one of the plurality of directions with one of its nearest-neighbor directions is less than 10°.
25. (new)           The method of claim 5 wherein the plurality of directions are spaced such that each direction corresponds to a vertex of a geodesic sphere centered on the robot.
26. (new)           The method of claim 5 further comprising re-associating an event previously associated with a previous direction with another one of the plurality of directions based on the movement of the robot.



REMARKS

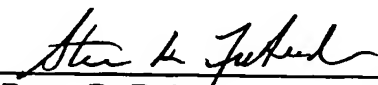
The specification has been amended to claim the benefit of parent application serial no. 10/118,670 filed on 04/08/2002. Therefore no new matter has been added.

Claims 5 – 19 have been cancelled. New claims 20 – 26 have been added to more distinctly claim the full scope of the invention. Support for the new claims may be found in the specification at page 16, line 28 through page 29, line 29. Therefore no new matter has been added.

Applicant respectfully requests that the Examiner enter the amendments into the file history of the above-identified application.

Respectfully submitted,

Date: December 31, 2003

  
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by Steven K. Fukuda (Reg. No. 44,690)  
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